



Certificate no.:
TAS00004F8

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Hook

with type designation(s)
WLH-OS 19/20, WLH-OS 22

issued to

PEWAG Austria GmbH
Graz, Steiermark, Austria

is found to comply with

DNV standard DNV-ST-0377 – Standard for shipboard lifting appliances
DNV standard DNV-ST-0378 – Offshore and platform lifting appliances
EN 1677-3 Components for slings - Safety - Part 3: Forged steel self-locking hooks, Grade 8

Application:

Product(s) approved by this certificate is/are accepted for DNV product certification and for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2024-10-09**

This Certificate is valid until **2029-10-08**.

for **DNV**

DNV local unit: **Augsburg**

Approval Engineer: **Stefan Heuer**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.



Form code: TA 251

Revision: 2023-09

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Product description

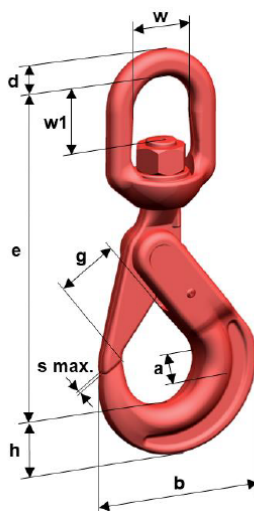
Safety hooks with plain bearing grade 8, type WLH-OS

Place of production

Application/Limitation

1. Working conditions:

- Design temperature: -20°C
- Hoist load coefficient (psi): max. 1,6
- Max. 20000 load cycles
- Plain bearing, no turning under load



Code	SWL/WLL*	SWL/WLL*	e	h	a	w	w1	d2	g	s	Weight
	SF 4	SF 5									
	[t]	[t]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
WLH-OS 19/20	16	12,5	394	62	50	80	86	36	70	2	14,3
WLH-OS 22	19	15	430	65	58	80	80	36	81	2	17

*) SWL = Safe Working Load / WLL = Work Load Limit

2. Comments

All materials are to be delivered with 3.1 material certificates acc. to ISO 10474 / EN 10204:
- impact energy KV min. 27J at -20°C (batch tested after final heat treatment)

The hooks are to be protected permanently against corrosion. The hooks shall be checked before every use, in regular intervals and are to be renewed if become necessary according to manufacturer's instructions.

It is the responsibility of the Holder of the Certificate to ensure that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of the Type Approval Certificate.

3. Product certification:

To obtain a DNV Product Certificate, each hook shall be tested with a static test load of: $2 \times (0,75 \times \text{SWL} \times \text{psi})$

- WLH-OS 19/20: $2 \times (0,75 \times \text{SWL} \times \text{psi}) = 38,4\text{t}$
- WLH-OS 22: $2 \times (0,75 \times \text{SWL} \times \text{psi}) = 45,6\text{t}$

Test loads calculated with SWL/WLL (SF 4) with $\text{psi}_{\text{max}} 1,6 > \text{psi } 1,33$ [DNV-ST-0378, Table 14-2, note 4]

Type Approval documentation

Tests carried out

Salt spray test, report no.: UB 24/00040, dated 2024-09-02
Tensile test, batch code: CEA-C1BA-C1BA, dated 2024-06-25
Tensile test, article no. 4099806, dated 2024-09-04
Tensile test, article no. 4099818, dated 2024-09-04
Type test WLH-OS 19/20 EN 1677-3, date 2024
Type test WLH-OS 22 EN 1677-3, date 2024

Marking of product

Each lifting gear shall be marked by the manufacturer with at least [DNV-ST-0377, 7.4]:

- Manufacturers name or trademark
- Type designation of loose gear
- Serial number
- Year of construction
- Nominal load "SWL" in t or kg

Periodical assessment

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

END OF CERTIFICATE